

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (previously presented) A fuel cell system comprising:
 - a fluid tight enclosure having an outlet;
 - at least one fuel cell operable to generate power using hydrogen-containing gas and oxidant gas as reaction gases, said fuel cell being located in said enclosure;
 - a hydrogen sensor operable to detect the presence of hydrogen, said hydrogen sensor being positioned in said outlet of said enclosure; and
 - a ventilation stream flowing through said enclosure and exiting said enclosure through said outlet, said ventilation stream in contact with said hydrogen sensor when flowing through said outlet.

2. (previously presented) A fuel cell system comprising:

- a fluid tight enclosure having an outlet;
- at least one fuel cell operable to generate power using hydrogen-containing gas and oxidant gas as reaction gases, said fuel cell being located in said enclosure;
- a ventilation stream flowing through said enclosure and exiting said enclosure through said outlet;
- a hydrogen sensor operable to detect the presence of hydrogen, said hydrogen sensor being in contact with said ventilation stream;
- a compressor operable to supply said oxidant gas to said fuel cell; and
- a flow path communicating with said compressor and said enclosure and through which said compressor induces flow of said ventilation stream.

3. (previously presented) A fuel cell system comprising:

- a fluid tight enclosure having an outlet;
- at least one fuel cell operable to generate power using hydrogen-containing gas and oxidant gas as reaction gases, said fuel cell being located in said enclosure;
- a ventilation stream flowing through said enclosure and exiting said enclosure through said outlet;
- a hydrogen sensor operable to detect the presence of hydrogen, said hydrogen sensor being in contact with said ventilation stream; and
- a compressor operable to supply said oxidant gas to said fuel cell and to induce flow of said ventilation stream,

wherein said enclosure includes an inlet through which said ventilation stream enters said enclosure, said outlet of said enclosure is in fluid communication with an inlet of said compressor, and said compressor draws said ventilation stream from said inlet of said enclosure through said enclosure and outlet and into said compressor.

4. (previously presented) A fuel cell system comprising:
- a fluid tight enclosure having an outlet;
 - at least one fuel cell operable to generate power using hydrogen-containing gas and oxidant gas as reaction gases, said fuel cell being located in said enclosure;
 - a ventilation stream flowing through said enclosure and exiting said enclosure through said outlet;
 - a hydrogen sensor operable to detect the presence of hydrogen, said hydrogen sensor being in contact with said ventilation stream; and
 - a flow path communicating with a cathode side of said at least one fuel cell and said enclosure and through which a portion of a cathode effluent produced by said fuel cell can be discharged into said enclosure and form at least a part of said ventilation stream.
5. (previously presented) The fuel cell system of claim 4, wherein said flow path directs essentially all of said cathode effluent into said enclosure.
6. (original) The fuel cell system of 1, wherein said hydrogen sensor includes:
- a catalytic combustion element operable to consume hydrogen; and
 - a temperature sensor operable to detect a change in temperature.

7. (original) The fuel cell system of claim 6, wherein essentially all of said ventilation stream flows through said catalytic combustion element.

8. (original) The fuel cell system of claim 7, wherein said hydrogen sensor simultaneously detects and consumes hydrogen.

9. (original) The system of claim 1, further comprising a hydrogen-containing test stream, said test stream being selectively added to said enclosure to test operation of said hydrogen sensor.

10. (currently amended) A fuel cell system comprising:

an enclosure having an outlet and an inlet, said inlet communicating with the environment;

at least one fuel cell operable to generate power using hydrogen-containing gas and oxidant gas as reaction gases, said fuel cell being located in said enclosure;

a ventilation stream operable to enter said enclosure through said inlet, flow through said enclosure, and exit said enclosure through said outlet;

a hydrogen sensor operable to detect the presence of hydrogen, said hydrogen sensor being positioned in a vicinity of said outlet of said enclosure, and said hydrogen sensor including a catalytic combustion element operable to react hydrogen.

11. (original) The fuel cell system of claim 10, wherein said hydrogen sensor further includes a temperature sensor operable to detect a change in temperature as a result of hydrogen reacting in the presence of said catalytic combustion element.

12. (original) The fuel cell system of claim 11, wherein said temperature sensor is a thermocouple.

13. (original) The fuel cell system of claim 11, wherein said temperature sensor is a strain gage having a resistance that changes with a change in temperature.

14. (original) The fuel cell system of claim 11, wherein said temperature sensor includes a shape memory alloy.

15. (original) The fuel cell system of claim 10, wherein essentially all of said ventilation stream flows through said catalytic combustion element prior to exiting said enclosure.

16. (original) A fuel cell system comprising:
an enclosure having an outlet;
at least one fuel cell operable to generate power using hydrogen-containing gas and oxidant gas as reaction gases, said fuel cell being located in said enclosure;
a coolant reservoir operable to hold coolant used to extract thermal energy from said fuel cell, said coolant reservoir being located in said enclosure;
a hydrogen sensor positioned in said enclosure, said hydrogen sensor being operable to detect the presence of hydrogen;
a ventilation stream flowing through said enclosure and exiting said enclosure through said outlet; and
wherein at least a portion of said ventilation stream flows through said coolant reservoir prior to exiting said enclosure.

17. (original) The fuel cell system of claim 16, wherein said coolant reservoir comprises a gas separator operable to separate gas from said coolant.

18. (original) The fuel cell system of Claim 16, wherein said ventilation stream is in direct contact with said coolant in said reservoir.

19-44. (cancelled)

45. (previously presented) The fuel cell system of claim 1, wherein said ventilation stream continuously flows through said enclosure during operation of said fuel cell.

46. (previously presented) The fuel cell system of claim 2, wherein said hydrogen sensor is in said outlet and said ventilation stream is in contact with said sensor when flowing through said outlet.

47. (previously presented) The fuel cell system of claim 10, wherein said hydrogen sensor is disposed in said outlet.

48. (previously presented) The fuel cell system of claim 10, further comprising a supply device supplying said oxidant gas to said fuel cell and a flow path communicating with said supply device and said enclosure and through which said supply device induces flow of said ventilation stream through said enclosure.

49. (cancelled)

50. (previously presented) A fuel cell system comprising:

a fluid tight enclosure having an outlet and an inlet, said inlet communicating with the environment external to said enclosure;

at least one fuel cell operable to generate power using hydrogen-containing anode and oxidant-containing cathode as reactants, said fuel cell being located in said enclosure;

a hydrogen sensor operable to detect the presence of hydrogen, said hydrogen sensor being positioned in said enclosure; and

a ventilation stream flowing through said enclosure, said ventilation stream entering said enclosure through said inlet and exiting said enclosure through said outlet, and essentially an entirety of said ventilation stream flowing in contact with said hydrogen sensor prior to exiting said enclosure.

51. (previously presented) The fuel cell system of claim 50, further comprising a supply device supplying said cathode reactant to said fuel cell and a flow path communicating with said supply device and said enclosure and through which said supply device induces flow of said ventilation stream into said enclosure through said inlet.

52. (previously presented) The fuel cell system of claim 50, wherein said hydrogen sensor is disposed in said outlet of said enclosure.

53. (previously presented) The fuel cell system of claim 50, wherein said hydrogen sensor includes a temperature sensor and a catalytic combustion element operable to react hydrogen.

54. (new) A fuel cell system comprising:

an enclosure having an outlet;

at least one fuel cell operable to generate power using hydrogen-containing gas and oxidant containing as reaction gases, said fuel cell being located in said enclosure;

a hydrogen sensor positioned in said enclosure operable to detect the presence of hydrogen; and

a ventilation stream flowing through said enclosure and exiting said enclosure through said outlet,

wherein said ventilation stream flows through at least a portion of said enclosure prior to encountering said hydrogen sensor.

55. (new) The fuel cell system of claim 54, wherein said ventilation stream flows through said enclosure and encounters said hydrogen sensor just prior to exiting said enclosure.

56. (new) The fuel cell system of claim 55, wherein said hydrogen sensor is disposed in said outlet.